ABSTRACT

The invention is directed to a device for dispensing and observing the luminescence of individual specimens in multi-specimen arrangements, particularly for the examination of biological, chemical or cytobiological assays with high specimen throughput. It is the object of the invention to find a novel possibility for dispensing in multi-specimen arrangements (microplates) and for observing the luminescence of the individual specimens, particularly for examining biological assays with high specimen throughput, which permits an immediate observation of the course of luminescence while dispensing proceeds at the same time without being limited to a determined type of microplate. This object is met, according to the invention, in that the dispensing unit has at least one linear dispensing comb containing an even number of dispensing nozzles representing an integral divisor of the number of wells along one dimension of the microplate, the dispensing combs are arranged so as to be displaceable orthogonal to their longitudinal dimension, every dispensing comb is connected to a controllable pump for metering the amount of liquid to be dispensed without immersion in the wells of the microplate, and the CCD camera is oriented by a fast optical system to a large-area rectangular region of the underside of the microplate across from the dispensing unit, the surface being adapted to the dimension of the dispensing comb and to the area of the microplate covered by the dispensing comb, so that the elapsed time for the luminescence is measurable simultaneously while dispensing continues.